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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,893	10/13/2006	Michael Huth	2003P06127W0US	6326
22116 7590 09/30/2009 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830				
EXAMINER SUNG, GERALD LUTHER				
ART UNIT		PAPER NUMBER		
3741				
MAIL DATE		DELIVERY MODE		
09/30/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/558,893

**Applicant(s)**

HUTH ET AL.

**Examiner**

GERALD L. SUNG

**Art Unit**

3741

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 11/30/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This office action is in response to the application 10/558,893 filed on 13 October 2006.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 15 and 17-18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding claims 17-18, the limitation "a metal shaped part" renders the claim indefinite because it is unclear how something may be shaped in elemental or molecular form.
5. Regarding claim 15, the limitation "a positive fit" renders the claims indefinite because it is unclear what exactly a positive fit is.

***Claim Rejections - 35 USC § 102***

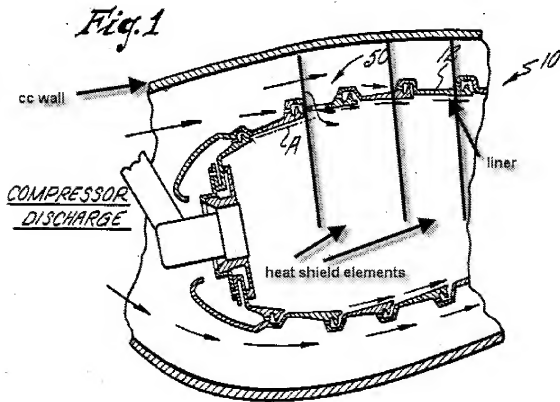
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 10-12, 17-19, 20-23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Madden US 4,622,821.

8. Regarding claims 10 and 19, referring to the figures below, Madden discloses a combustion liner for a gas turbine engine comprising a combustion chamber wall (shown below), a liner (clearly shown) formed from a plurality of heat shields on an inside of the combustion chamber wall, an inner space formed between the heat shield elements and the combustion chamber wall and exposed to a cooling medium, and a flow element 12 ('louver') arranged in the inner space for selective adjustment of a cooling medium stream.



9. Regarding claim 11, the flow element 12 is a projection projecting radially outward from the liner causing a decrease in the cross sectional area in the liner at the position which it occupies. In the instant case, upon conserving mass, it is noted that a decrease in cross sectional area will lead to an increase in the flow velocity at a given

point. Therefore, since the cross sectional area is larger upstream of the flow elements 12, the flow will increase from the flow velocity upstream of the flow element.

10. Regarding claims 12 and 23, as broadly claimed, the heat shield elements are assigned a respective flow element capable of cooling a thermally heavily loaded wall section of the heat shield element.

11. Regarding claims 17-18, as best understood, the flow elements are made of metal, a metal sheet, or at least a metal shaped part.]

12. Regarding claim 20, Madden discloses a flow element arranged in a flow channel between a combustion chamber wall and a heat shield in a combustion chamber of a gas turbine comprising a surface of the flow element located near a cold side of the heat shield such that the flow channel becomes more narrow, a surface contour of the surface adapted to approximately match a surface contour of the cold side of the heat shield element.

13. Regarding claim 21, the cooling medium flowing in the flow channel is caused to accelerate as the cooling medium flows by the surface.

14. Regarding claim 22, the flow element is approximately rectangular in shape and the surface forms the longer side of the rectangle. See cross section of element 12 where the length is the top portion.

15. Regarding claim 26, the surface is approximately parallel to the cold surface of the heat shield element.

16. Claims 10-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimura et al. US 5,515,680.

17. Regarding claims 10 and 19, Fujimura discloses a combustion chamber wall 16 a liner formed from a plurality of heat shields 9 on an inside of the combustion chamber wall, an inner space formed between the heat shield elements and the combustion chamber wall and exposed to a cooling medium, a flow element 42, 43 arranged in the inner space for selective adjustment of a cooling medium stream.
18. Regarding claim 11, a flow channel for cooling medium is formed by the flow element causing a flow velocity of the cooling medium stream to be increased compared with the velocity upstream of the flow element.
19. Regarding claims 12 and 23, the heat shield element 9 is assigned a respective flow element capable of cooling a thermally heavily loaded wall section of the heat shield element.
20. Regarding claims 13 and 24, the heat shield element 9 is a single shell hollow vessel with a cavity that the flow element is disposed.
21. Regarding claim 14, the heat shield element 9 has a surface region with a surface contour curved along a longitudinal axis and a transverse axis, see figure 9.
22. Regarding claim 15, as best understood, for the purposes of claim 15, as broadly interpreted, the combustion chamber wall is said to extend to element 28, therefore the flow element 43 is formed on the combustion chamber wall, where the element being positively mounted on the wall is said to be mounted with a positive fit.
23. Regarding claim 16, the flow elements, being installed on walls 9 and 28 are detachable.
24. Regarding claims 17-18, the flow element is at least a metal shaped part.

25. Regarding claim 20, the flow element 42, 43 is arranged in a flow channel between a combustion chamber wall and a heat shield element in a combustion chamber of a gas turbine, the flow element comprises a surface of the flow element located near a cold side of the heat shield such that the flow channel becomes more narrow, a surface contour of the surface adapted to approximately match a surface contour of the cold side of the heat shield element.
26. Regarding claim 21, the cooling medium flowing in the flow channel is caused to accelerate as the cooling medium flows by the surface.
27. Regarding claim 22, the flow element is "approximately" rectangular (two triangles and a rectangle) where the surface forms the length of the rectangular.
28. Regarding claim 25 the flow element is "approximately" triangular (two triangles and a rectangle) and the surface forms, at least in part, the hypotenuse of the triangle.
29. Regarding claim 26, the surface is approximately parallel to the cold surface of the heat shield element.

***Contact Information***

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERALD L. SUNG whose telephone number is (571)270-3765. The examiner can normally be reached on M-F 9am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on (571) 272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerald Sung  
Patent Examiner  
GS  
26 September 2009

/Michael Cuff/  
Supervisory Patent Examiner, Art Unit 3741